

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

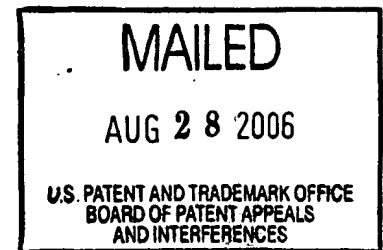
UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte KIMIKAZU MATSUMOTO

Appeal No. 2006-1654
Application No. 09/929,488

ON BRIEF



Before THOMAS, JERRY SMITH, and MACDONALD, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-17.

The disclosed invention pertains to an active matrix type liquid crystal display device.

Representative claim 1 is reproduced as follows:

1. An active matrix type liquid crystal display device comprising:

- a thin film transistor (TFT) substrate having a common wiring and a source/drain wiring formed on a first substrate, said first substrate being provided with an insulating film covering said common wiring and said source/drain wiring, said insulating film being coated with a first alignment layer;
- an opposite substrate, opposing to said TFT substrate, having a second alignment layer formed on a second substrate;
- a liquid crystal held between said first alignment layer and said second alignment layer; and
- a common electrode and a pixel electrode wired in parallel with each other and being formed as parts of said common wiring and said source/drain wiring, respectively, so that an angle made between a direction in which said first alignment layer is subjected to an aligning treatment and a direction in which said second alignment layer is subjected to an aligning treatment is set to a value of 0.5 to 4.0 degrees, said value providing a setting that concurrently decreases a threshold voltage between the pixel electrode and the common electrode required to change a direction of said liquid crystal

Appeal No. 2006-1654
Application No. 09/929,488

therebetween, increases a response of switching of said liquid crystal,
and increases a luminance of said liquid crystal.

The examiner relies on the following references:

Baur et al. (Baur)	5,576,867	Nov. 19, 1996
Ohta et al. (Ohta '116)	6,266,116	Jul. 24, 2001 (filed Sep. 26, 1996)
Ohta et al. (Ohta '053)	6,532,053	Mar. 11, 2003 (PCT Pub. Date Jun. 25, 1998 (WO98/27454))

Admitted Prior Art (see instant specification, prior art figs. 1A and 1B; see answer, page 7).

The following rejections are on appeal before us:

1. Claims 1-7 and 10-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Baur [answer, pages 3-7].
2. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Baur in view of Admitted Prior Art [answer, pages 7-9].

3. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Baur in view of Ohta '053 [answer, pages 9-12].
4. Claims 1-7 and 10-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Baur in view of Ohta '116 [answer, pages 13-15].
5. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Baur in view of Ohta '116 and further in view of Admitted Prior Art [answer, pages 16 and 17].
6. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Baur in view of Ohta '116, and further in view of Ohta '053 [answer, pages 18-21].

Rather than repeat the arguments of appellant or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied

Appeal No. 2006-1654
Application No. 09/929,488

upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer. Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the briefs have not been considered and are deemed to be waived. See 37 C.F.R. § 41.37(c) (1)(vii)(2004). See also In re Watts, 354 F.3d 1362, 1368, 69 USPQ2d 1453, 1458 (Fed. Cir. 2004).

It is our view, after consideration of the record before us, that the evidence relied upon supports each of the examiner's rejections of the claims on appeal. Accordingly, we affirm.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148

USPQ 459, 467 (1966). The examiner must articulate reasons for the examiner's decision. In re Lee, 277 F.3d 1338, 1342, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). In particular, the examiner must show that there is a teaching, motivation, or suggestion of a motivation to combine references relied on as evidence of obviousness. Id. 277 F.3d at 1343, 61 USPQ2d at 1433-34. The examiner cannot simply reach conclusions based on the examiner's own understanding or experience - or on his or her assessment of what would be basic knowledge or common sense. Rather, the examiner must point to some concrete evidence in the record in support of these findings." In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). Thus the examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the examiner's conclusion. However, a suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. In re Kahn,

Appeal No. 2006-1654
Application No. 09/929,488

441 F.3d 977, 987-88, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) citing In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000). See also In re Thrift, 298 F. 3d 1357, 1363, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

At the outset, we note that we reference *infra* the corrected appeal brief that was attached to the reply brief received on Jun. 21, 2005. In the reply brief appellant admits that the term of art “tilt angle” was used inadvertently in various locations within the original appeal brief (filed on Feb. 7, 2005), when “twist angle” is the correct parameter of interest [reply brief, page 2]. We note that the first page of the corrected appeal brief

attached to the reply brief begins on page 5 of the reply brief. Therefore, we will refer *infra* to specific pages of the corrected appeal brief using the page numbering of the reply brief. We also note that a supplemental reply brief was received on Dec. 6, 2005 that has been considered.

I. We consider first the examiner's rejection of claims 1-7 and 10-17 as being unpatentable over the teachings of Baur. Since appellant's arguments with respect to this rejection have treated these claims as a single group which stand or fall together, we will consider independent claim 1 as the representative claim for this rejection. See 37 C.F.R. § 41.37(c)(1)(vii) (2004).

Appellant argues that the examiner's position can only be described as alleging obviousness because the narrow ranges (e.g., 0.5 to 4.0 degrees/1.5 to 2.0 degrees) for twist angle β prescribed in the instant invention are included in the wider range of Baur (e.g., -15 to + 15 degrees) [corrected brief, page 6, emphasis added]. In particular, appellant points to MPEP §2131.03(II):

If the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with "sufficient specificity" to constitute an anticipation of the claims. The unexpected results may also render the claims unobvious.

Appellant argues that the improved performance parameters identified in instant specification (e.g., reduction of threshold voltage, increased response time, and optimal luminance, while concurrently controlling contrast degradation) satisfy the requirement for identifying the “unexpected results” that occur for the narrow range of twist angle prescribed by the instant invention [corrected brief, page 7]. Appellant concludes that the engineering graphs of the figures of the instant specification provide evidence of the unexpected results that are obtained when twist angle β is set within the narrow ranges prescribed by the claimed invention [*id.*, emphasis added].

In response, the examiner asserts that Baur teaches that appellant's twist angle is a results effective variable wherein the teaching of Baur is robust to explain to those of ordinary skill in the art that one can establish appellant's claimed twist angle as a matter of tuning for a particular application, e.g., for a high ambient light or low ambient light application [answer, page 21]. The examiner argues that it is clear from the prior art that a plurality of parameters are adjusted as a set to achieve desired results [*id.*]. The examiner asserts that Baur discloses a range of twist angles that is wide enough to include a broad range of displays useful in a broad range of applications [*id.*]. The examiner further asserts that simply

claiming a narrower range within the range of Baur is insufficient for patentability [answer, page 22]. The examiner argues that it is clear from Baur that increasing the twist angle to something greater than zero will improve switching speed and reduce switching voltage, because the small twist angle mechanically approaches the “on” condition (i.e., the twist turns the pixel partially on) [*id.*]. The examiner notes that the penalty is reduced contrast (i.e., moving further from the off state), but this is acceptable especially for low ambient light applications due to the insensitivity of the human eye. The examiner concludes that appellant’s specification and figures do not show any unexpected results [*id.*].

We note that appellant has admitted that the narrow ranges (e.g., 0.5 to 4.0 degrees) for twist angle β prescribed in the instant invention are included in the wider range of Baur (e.g., -15 to + 15 degrees) [corrected brief, page 6; see also Baur at col. 13, lines 43 and 44]. The Court of Appeals for the Federal Circuit has recently reaffirmed that where the claimed ranges are completely encompassed by the prior art, the conclusion that the claims are *prima facie* obvious is even more compelling than in cases of mere overlap. In re Harris, 409 F.3d 1339, 1341, 74 USPQ2d 1951, 1953 (Fed. Cir. 2005) citing In re Peterson, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003) [emphasis added]. The Court of

Appeals for the Federal Circuit has also determined “[w]hen an applicant seeks to overcome a *prima facie* case of obviousness by showing improved performance in a range that is within or overlaps with a range disclosed in the prior art, the applicant must ‘show that the range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range.’ ” In re Geisler, 116 F.3d 1465, 1469–70, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997), citing In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). The Court of Appeals for the Federal Circuit has also found that a comparison to the closest prior art may provide the requisite showing of unexpected results. In re De Blauwe, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) (“When an article is said to achieve unexpected (i.e. superior) results, those results must logically be shown as superior *compared* to the results achieved with other [prior art] articles ... Moreover, an applicant relying on comparative tests to rebut a *prima facie* case of obviousness must compare his claimed invention to the closest prior art.”).

We note that appellant asserts that the engineering graphs of the figures of the instant specification provide the evidence of the unexpected results that are obtained when twist angle β is set within the narrow ranges prescribed by the claimed invention [corrected brief, page 7]. Appellant

further points to the following sections of the instant specification as allegedly showing unexpected results [supplemental reply brief, page 4, ¶1]:

Page 2, lines 1-6:

However, the IPS type LCD has such problems that the response of the liquid crystal is slow because of the structure thereof, and the threshold voltage necessary between the electrodes for changing the direction of the liquid crystal is high, and furthermore, the luminance of the display panel is low.

Page 3, lines 9-17:

Accordingly, it has become clear that even when a strong electric field is generated near the TFT substrate, a weak electric field is generated near the opposite substrate, and therefore, it takes substantially a long time to rotate the liquid crystal. It has been understood that when the cell gap is 4.5 μm , when comparing the electric field intensity near the TFT substrate and the electric field intensity near the opposite substrate, the latter one is about half of the previous one.

Page 7, lines 9-23:

In the IPS-LCD, this ununiformity of the electric field in the cell thickness direction has been the cause of such problems that the response of the liquid crystal is slow, and the threshold voltage necessary between the electrodes for changing the direction of the liquid crystal is high, and furthermore, the luminance of the display panel is low. In both of the conventional example 1 and the conventional example 2 the electric field becomes weaker in proportion to the distance from the surface of the TFT substrate in the cell thickness direction, but the method that makes it possible to easily rotate the liquid crystal near the CF substrate in which the electric field is weakened is not shown. Accordingly, the conventional IPS mode LCD has still had the above-described problems, because of the ununiformity of the electric field in the cell thickness direction.

In particular, we note that appellant has failed to provide evidence (i.e., an affidavit or declaration of record) to show how these portions of the specification compare the claimed instant invention results to the closest

prior art results [supplemental reply brief, page 4]. Significantly, we find that these portions of the instant specification merely describe aspects of conventional In-Plane-Switching (IPS) type liquid crystal displays.

Appellant further asserts that “unexpected results” are inherent in fig. 8 of the instant specification that shows a “sweet spot” at approximately 2.75 degrees of twist angle [supplemental reply brief, page 4]. We disagree. In particular, we note that Baur explicitly discloses that a “liquid crystal has a twistable structure and the amount of light transmission through the liquid crystal depends on its degree of twist” [col. 3, lines 7-9]. We note that the amount of light transmission as a function of the twist angle clearly affects the transmittance and contrast parameters. Therefore, we agree with the examiner that the figures of the instant specification only show expected results [see answer, pages 22 and 23]. Even if the figures of the instant invention describe “actually-measured results,” as argued by appellant [corrected brief, page 10], we note that appellant has failed to provide evidence comparing the instant claimed invention to the closest prior art to show that the results are unexpected compared to the prior art results.

Objective evidence of unexpected results must be factually supported by an appropriate affidavit or declaration to be of probative value. In re De

Blauwe, 736 F.2d at 705, 222 USPQ at 196 ("It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification does not suffice.") citing In re Lindner, 457 f.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972) [emphasis added]. We note that the Court of Appeals for the Federal Circuit has further determined that arguments of counsel cannot take the place of evidence in the record. In re Geisler, 116 F.3d at 1471, 43 USPQ2d at 1365 [emphasis added].

In the instant case, we note that appellant has failed to provide a showing supported by an appropriate affidavit or declaration demonstrating that the claimed range of 0.5 to 4.0 degrees of the second alignment layer is critical and that it achieves unexpected results relative to the prior art range disclosed by Baur. In particular, we note that there is no evidence appendix contained within the brief. See 37 C.F.R. §§ 41.37(c)(1)(ix) and 41.33(d). Therefore, we conclude that appellant's assertions of unexpected results constitute mere argument and conclusory statements in the specification that cannot establish patentability. Accordingly, we will sustain the examiner's rejection of representative claim 1 for essentially the same reasons argued by the examiner in the answer. Because we have

considered claim 1 as the representative claim for this rejection, we will also sustain the examiner's rejection of claims 2-7 and 10-17.

We find that the examiner has clearly met his/her burden of establishing that claims 1-7 and 10-17 are *prima facie* obvious by showing (as admitted by appellant; see corrected brief, page 6) that the claimed range of representative claim 1 is completely encompassed by the prior art. See *In re Harris, supra* at 1341. Once the examiner has established a *prima facie* case of obviousness, the burden then shifts to appellant to provide an affidavit or declaration showing unexpected results, as discussed *supra*.

Because appellant has failed to provide evidence of unexpected results associated with the claimed narrower range, we need not reach the other arguments raised by appellant in the briefs asserting, *inter alia*, that Baur is already optimized at a twist angle range of -15 to +15 degrees and therefore there is no suggestion in the reference to separately adjust the twist angle parameter [corrected brief, page 6]. Nevertheless, in order to provide a complete response to appellant's arguments, we disagree with appellant's assertion that there is no suggestion in the Baur reference to separately adjust the twist angle parameter [*id.*]. In particular, we note again that Baur explicitly discloses that a "liquid crystal has a twistable structure and the amount of light transmission through the liquid crystal

depends on its degree of twist" [col. 3, lines 7-9, emphasis added].

Therefore, we find that Baur provides ample suggestion to an artisan to adjust the twist angle to control the amount of light transmission through the liquid crystal. Accordingly, we find that this explicit teaching by Baur vitiates appellant's contention that "Baur clearly teaches against using twist angle β as the parameter to be adjusted" [corrected brief, page 8].

With respect to rejections two through six (i.e., II, III, IV, V and VI as addressed *infra*), we note that appellant's arguments in the briefs are directed entirely to the Baur reference that we have completely addressed *supra*. With respect to rejections two through six, as discussed *infra*, we note that arguments that appellant could have made but chose not to make in the briefs have not been considered and are deemed to be waived. See 37 C.F.R. § 41.37(c)(1)(vii) (2004).

II. We consider next the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Admitted Prior Art [answer, page 7].

We note that appellant has failed to specifically traverse this rejection or point out any alleged differences between the claims and the Admitted Prior Art (i.e., corresponding to prior art figs. 1A and 1B of the instant

specification) relied upon by the examiner to modify the primary Baur reference. After carefully reviewing the evidence before us, we agree with the examiner that instant prior art figs. 1A and 1B teach the instant claimed limitations as being common features of a conventional prior art Thin Film Transistor (TFT) display [answer, page 7]. Accordingly, we will sustain the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Admitted Prior Art.

III. We consider next the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Ohta '053 [answer, page 9].

We note that appellant has failed to specifically traverse this rejection or point out any alleged differences between the claims and the Ohta '053 reference relied upon by the examiner to modify the primary Baur reference. After carefully reviewing the evidence before us, we agree with the examiner that figs. 2 and 3 of Ohta '053 teach the instant claimed features as being common features of a conventional prior art Thin Film Transistor (TFT) display [answer, pages 9-12]. Accordingly, we will sustain the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Ohta '053.

IV. We consider next the examiner's rejection of claims 1-7 and 10-17 as being unpatentable over the teachings of Baur in view of Ohta '116 [answer, page 12]. We note that appellant has failed to specifically traverse this rejection or point out any alleged differences between the claims and the Ohta '116 reference relied upon by the examiner to modify Baur. Pursuant to our authority under 37 C.F.R. § 41.37(c)(1)(vii)(2004), we will select independent claim 1 as the representative claim for this rejection.

We note that the examiner admits that Baur does explicitly disclose a range of 0.5 to 4.0 degrees [answer, page 12]. In particular, we note that the examiner relies upon Ohta '116 as teaching a first embodiment (col. 4, lines 32-34, col. 18, lines 58-62, and col. 19, lines 33-37) where an angle made between a direction in which a first alignment layer is subjected to an aligning treatment and a direction in which a second alignment layer is subjected to an aligning treatment is set to a value of β within plus or minus 5 degrees of zero degrees (col. 8, lines 60-65, and col. 13, lines 39-44) [answer, page 13]. The examiner further notes that this broader range completely encompasses the claimed 0.5 to 4.0 degrees (claim 1) and 1.5 to 2.0 degrees (claim 2) to produce a display with a low dependence of image contrast on viewing angle in a fixed driving voltage range (i.e., reduced voltage with adequate response speed) [answer, page 13]. The examiner

asserts in the rejection that optimization of the results effective variable β to comprise appellant's ranges of 0.5 to 4.0 degrees and 1.5 to 2.0 degrees would have been obvious to those having ordinary skill in the art of liquid crystals [*id.*]. We note that the Court of Appeals for the Federal Circuit has found that "[s]electing a narrow range from *within* a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply *overlaps* a disclosed range." In re Peterson, 315 F.3d at 1329-30, 65 USPQ2d at 1382 ("In fact, when, [...] , the claimed ranges are completely encompassed by the prior art, the conclusion is even more compelling than in cases of mere overlap. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.") [emphasis added].

In the instant case, we find that the examiner, as finder of fact, has clearly met his/her burden of establishing a *prima facie* case of obviousness with the findings set forth in the rejection that the broader range taught by Ohta '116 completely encompasses the claimed range of 0.5 to 4.0 degrees [answer, page 13; see also claim 1]. Accordingly, we will sustain the examiner's rejection of representative claim 1 as being unpatentable over the teachings of Baur in view of Ohta '116 for essentially the same reasons

set forth by the examiner in the rejection. Because we have considered claim 1 as the representative claim for this rejection, we will also sustain the examiner's rejection of claims 2-7 and 10-17.

V. We consider next the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Ohta '116 and further in view of Admitted Prior Art [answer, page 16].

We note that appellant has failed to specifically traverse this rejection or point out any alleged differences between the claims and the Ohta '116 reference and the Admitted Prior Art relied upon by the examiner to modify the primary Baur reference [answer, pages 16 and 17]. After carefully reviewing the evidence before us, we agree with the examiner that instant prior art figs. 1A and 1B (i.e., Admitted Prior Art) teach the instant claimed limitations as being common features of a conventional prior art Thin Film Transistor (TFT) display [answer, pages 16 and 17]. Accordingly, we will sustain the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Ohta '116 and further in view of Admitted Prior Art.

VI. Lastly, we consider the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Ohta '116, and further in view of Ohta '053 [answer, page 18].

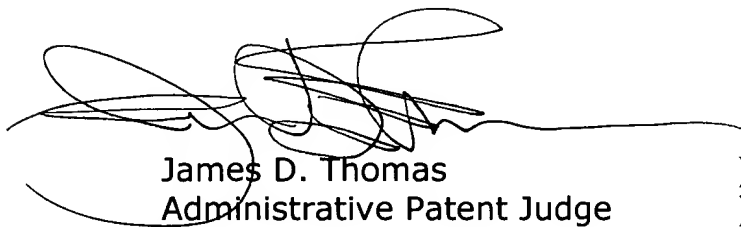
We note that appellant has failed to specifically traverse this rejection or point out any alleged differences between the claims and the Ohta '116 and Ohta '053 references relied upon by the examiner to modify the primary Baur reference [answer, pages 18-21]. After carefully reviewing the evidence before us, we agree with the examiner that figs. 2 and 3 of Ohta '053 teach the instant claimed features as being common features of a conventional prior art Thin Film Transistor (TFT) display [*id.*]. Accordingly, we will sustain the examiner's rejection of claims 8 and 9 as being unpatentable over the teachings of Baur in view of Ohta '116, and further in view of Ohta '053.

In summary, we have sustained the examiner's rejection of all claims on appeal. Therefore, the decision of the examiner rejecting claims 1-17 is affirmed.

Appeal No. 2006-1654
Application No. 09/929,488

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED.



James D. Thomas
Administrative Patent Judge



Jerry Smith
Administrative Patent Judge



Allen R. MacDonald
Administrative Patent Judge

)
)
)
)
) BOARD OF PATENT
)
) APPEALS AND
)
) INTERFERENCES
)
)

JR/SJC/kis

Appeal No. 2006-1654
Application No. 09/929,488

MCGINN INTELLECTUAL PROPERTY LAW GROUP, P.L.L.C.
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817